WHAT IS CLAIMED IS:

1. An image processing apparatus for receiving and decoding a code sequence obtained by encoding an image, comprising:

5   decoding means for entropy-decoding the input code sequence;

correction value selection means for selecting correction values among a plurality of correction values, used to correct quantization indices decoded by said

10   decoding means;

dequantizing means for generating a series of coefficient sequences representing an image by dequantizing the quantization indices which are decoded by said decoding means and are corrected in accordance

15   with the correction values; and

inverse transforming means for restoring an image signal by executing a predetermined inverse transform manipulation of the coefficient sequences obtained by said dequantizing means.

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2. The apparatus according to claim 1, wherein said inverse transforming means executes an inverse discrete wavelet transformation.

25   3. The apparatus according to claim 1, wherein said dequantizing means corrects values of the quantization

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indices using the correction values in accordance with the values of the quantization indices, and generates the coefficient sequences by computing products of the corrected quantization indices and a quantization step.

4. The apparatus according to claim 1, wherein said correction value selection means selects a constant correction value for dequantization of coefficients which belong to a lowest frequency band of coefficient groups which belong to a plurality of frequency bands and undergo inverse transformation by said inverse transforming means.

5. The apparatus according to claim 1, wherein said correction value selection means selects the correction values on the basis of information that pertains to neighboring regions of a quantization index to be dequantized.

6. The apparatus according to claim 5, wherein the information includes values of quantization indices of the neighboring regions.

7. The apparatus according to claim 5, wherein the correction value is selected on the basis of whether or

not the number of zero quantization indices is not less than a predetermined value.

8.   The apparatus according to claim 1, wherein the input code sequence is a code sequence obtained by breaking up coefficients that have undergone discrete wavelet transformation into bit planes, and encoding the bit planes.

9.   The apparatus according to claim 8, wherein said correction value selection means selects the correction value in accordance with a value of the bit plane of the code sequence.

10.   The apparatus according to claim 1, wherein said correction value selection means selects the correction value in accordance with a value of a flag indicating an image type included in the code sequence.

11.   An image processing method for receiving and decoding a code sequence obtained by encoding an image, comprising:

    a decoding step of entropy-decoding the input code sequence;

    a correction value selection step of selecting correction values among a plurality of correction values,

used to correct quantization indices decoded in the decoding step;

a dequantization step of generating a series of coefficient sequences representing an image by

5 dequantizing the quantization indices which are decoded in the decoding step and are corrected in accordance with the correction values; and

an inverse transforming step of restoring an image signal by executing a predetermined inverse transform

10 manipulation of the coefficient sequences obtained in said dequantizing step.

12. The method according to claim 11, wherein said inverse transform step includes a step of executing

15 inverse discrete wavelet transformation.

13. The method according to claim 11, wherein the dequantization step includes the step of correcting values of the quantization indices using the correction

20 values in accordance with the values of the quantization indices, and generating the coefficient sequences by computing products of the corrected quantization indices and a quantization step.

25 14. The method according to claim 11, wherein the correction value selection step includes the step of

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selecting a constant correction value for dequantization
of coefficients which belong to a lowest frequency band
of coefficient groups which belong to a plurality of
frequency bands and undergo inverse transformation in

5   the inverse transform step.

15.   The method according to claim 11, wherein the
correction value selection step includes the step of
selecting the correction values on the basis of

10   information that pertains to neighboring regions of a
quantization index to be dequantized.

16.   The method according to claim 15, wherein the
information includes values of quantization indices of

15   the neighboring regions.

17.   The method according to claim 15, wherein the
correction value is selected on the basis of whether or
not the number of zero quantization indices is not less

20   than a predetermined value.

18.   The method according to claim 11, wherein the
input code sequence is a code sequence obtained by
breaking up coefficients that have undergone discrete

25   wavelet transformation into bit planes, and encoding the
bit planes.

19.   The method according to claim 18, wherein the correction value selection step includes the step of selecting the correction value in accordance with a
5   value of the bit plane of the code sequence.

20.   The method according to claim 11, wherein the correction value selection step includes the step of selecting the correction value in accordance with a
10   value of a flag indicating an image type included in the code sequence.

21.   A computer readable storage medium that stores a program for executing an image processing method for
15   receiving and decoding a code sequence obtained by encoding an image, comprising:

     a decoding step module for entropy-decoding the input code sequence;

     a correction value selection step module for
20   selecting correction values among a plurality of correction values, used to correct quantization indices decoded by said decoding step module;

     a dequantization step module for generating a series of coefficient sequences representing an image by
25   dequantizing the quantization indices which are decoded

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by said decoding step module and are corrected in accordance with the correction values; and

an inverse transforming step of restoring an image signal by executing a predetermined inverse transform manipulation of the coefficient sequences obtained in said dequantizing step.

22. The medium according to claim 21, wherein said inverse transform step module executes inverse discrete wavelet transformation.

23. The medium according to claim 21, wherein said dequantization step module corrects values of the quantization indices using the correction values in accordance with the values of the quantization indices, and generates the coefficient sequences by computing products of the corrected quantization indices and a quantization step.

24. The medium according to claim 21, wherein said correction value selection step module selects a constant correction value for dequantization of coefficients which belong to a lowest frequency band of coefficient groups which belong to a plurality of frequency bands and undergo inverse transformation in said inverse transform step module.

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25.   The medium according to claim 21, wherein said correction value selection step module selects the correction values on the basis of information that pertains to neighboring regions of a quantization index to be dequantized.

26.   The medium according to claim 25, wherein the information includes values of quantization indices of the neighboring regions.

27.   The medium according to claim 25, wherein the correction value is selected on the basis of whether or not the number of zero quantization indices is not less than a predetermined value.

28.   An image processing apparatus for receiving and decoding a code sequence obtained by encoding an image, comprising:

    a decoder, provided to entropy-decoding the input code sequence;

    a correction value selection unit, provided to select correction values among a plurality of correction values, used to correct quantization indices decoded by said decoder;

a dequantizer, provided to generate a series of coefficient sequences representing an image by dequantizing the quantization indices which are decoded by said decoder and are corrected in accordance with the correction values; and

inverse transforming unit, provided to restore an image signal by executing a predetermined inverse transform manipulation of the coefficient sequences obtained by said dequantizer.